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REMARKS

Claims 1-30 are pending in the Application. The Examiner has allowed Claims 22-30 and has rejected Claims 1-22.

Claim rejections - 35 U.S.C. § 102

The Examiner rejected Claims 1, 2, 7-9, and 11 under 35 U.S.C. § 102(e) as being anticipated by Bianchetti (U.S. Patent No. 6,095,810). The Examiner indicated that Bianchetti '810 "shows a housing 1, drill head 14, motor 2 and light source 11 that has a desired wavelength of 450-470 nm." In this regard, the Examiner directed Applicants to column 2, lines 9-12 of Bianchetti '810 and indicated that the structure illustrated in Bianchetti '810 is inherently capable of functioning to produce tooth luminescence. With respect to Claim 2, the Examiner directed Applicants to fiber optics 15. Similarly, with respect to Claim 8, the Examiner directed Applicants to excavation means 10 and illumination guide mean 15.

Bianchetti '810 discloses a dental instrument with an incorporated light source useful together with a contrast agent for diagnostic purposes. As illustrated in Figure 1, the instrument of Bianchetti '810 includes hollow body 1 housing transducer 2 connected via arm 20 to vibrating workpiece 10. Vibrating workpiece 10 is utilized to remove tartar and plaque from the tooth *surface*.

Independent Claim 1 of the present application calls for a dental handpiece comprising, *inter alia*, a *drill head* protruding from a housing and a light source mounted in the housing and operable to produce a light having a desired wavelength operable to produce tooth luminescence through an opening in the housing. Independent Claim 8 calls for, *inter alia*, *excavation means* for excavating a portion of carious material occupying a portion of a tooth and illumination means for emitting a light of a desired wavelength operable to produce tooth luminescence.

Applicants respectfully remind the Examiner that "[a] rejection for anticipation under §102 requires that each and every limitation of the claimed invention be disclosed in a single prior art reference." In re Paulson, 30 F.3d 1475, 1478 (Fed. Cir. 1994). As indicated above, Bianchetti '810 discloses a vibrating workpiece for removing plaque and/or tartar from the *surface* of a tooth, not a *drill head* as called for in independent Claim 1 of the current application, or the *excavation means* of Claim 8 of the present application. Because

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Bianchetti '810 does not disclose the drill head of Claim 1 or the excavation means of Claim 8, Applicants respectfully request that the Examiner withdraw the 35 U.S.C. § 102(e) rejection of these claims as well as the 35 U.S.C. § 102(e) rejection of Claims 2, 7, 9, and 11 depending therefrom.

Claim rejections - 35 U.S.C. § 103

The Examiner rejected Claim 3 under 35 U.S.C. § 103 as being unpatentable over Bianchetti '810 in view of Schuss (U.S. Patent No. 4,498,868). The Examiner rejected Claims 4, 5, and 12 under 35 U.S.C. § 103 as being unpatentable over Bianchetti '810. The Examiner additionally rejected Claims 6 and 10 under 35 U.S.C. § 103 as being unpatentable over Bianchetti '810 in view of Meller (U.S. Patent No. 4,642,738). Responsive to these rejections of Claims 3-6, 10, and 12, Applicants respectfully submit that Bianchetti does not disclose or suggest the drill head, or excavation means of independent Claims 1 and 8, and respectfully remind the Examiner that "[d]ependent claims are nonobvious under §103 if the independent claims from which they depend are nonobvious." Hartness Int'l. Inc. v. Simplimatic Eng'g Co., 819 F.2d 1100, 1108 (Fed. Cir. 1987). Applicants respectfully submit that Claims 3-6, 10, and 12 are nonobvious because independent Claims 1 and 8 from which they depend are nonobvious as outlined above.

The Examiner rejected Claims 13 and 14 under 35 U.S.C. § 103 as being unpatentable over Meller '738 in view of Lafond (EP 0 113 152). In this regard, the Examiner indicated that Meller '738 "shows a housing 20, drill head as shown and light source 40 through an opening in the housing as shown and that Lafond '152 shows a filter 60."

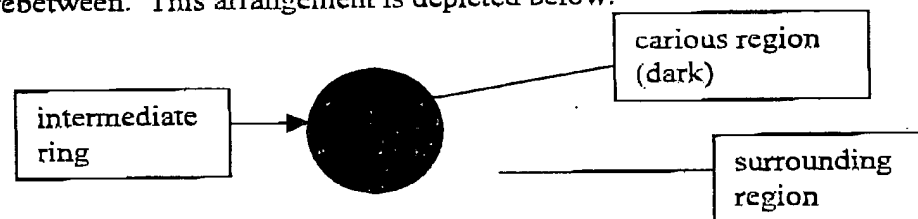
Meller '738 discloses an illuminated dental drill for direct illumination of the area being drilled. See, e.g., U.S. Patent No. 4,642,738, column 1, line 5-7. This reference does not disclose a light source having a wavelength operable to produce tooth luminescence.

It is well settled that "the Examiner bears the initial burden of presenting a prima facie case of obviousness." *In re Rijckaert*, 9 F.3d 1531, 1532 (Fed. Cir. 1993) (citing *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992)). It is equally well settled that "a prima facie case of obviousness is established when the teachings from the prior art itself would appear to have suggested the claimed subject matter to a person of ordinary skill in the art." *In re Rijckaert*, 9 F.3d 1531, 1532 (Fed. Cir. 1993) (citing *In re Bell*, 991 F.2d 781, 782 (Fed. Cir. 1993)). Stated another way, "(t)he mere fact that the prior art may be modified in the manner

or showing a teaching or suggestion
obviousness rejection, but the Examiner must also indicate where such a teaching or suggestion can be found in the relevant reference. See *In re Yate*, 3 F.2d 1054 (CCPA 1981) (when the PTO asserts that there is an explicit or implicit teaching or suggestion in the prior art, it must indicate where such a teaching or suggestion appears in the reference). Without a rigorous application of the requirement to establish a teaching or suggestion to combine, the forbidden arena of hindsight based obviousness analysis will be entered.

Applicants respectfully submit that the Examiner has not established a teaching or suggestion to combine Meller '738 and Lafond '152. Specifically, the Examiner has provided no indication of where a teaching or suggestion for combining Meller '738 with Lafond '152 can be found in these references. Because the Examiner has not established a teaching or suggestion to combine Meller '738 with Lafond '152, Applicants respectfully request that the Examiner withdraw the 35 U.S.C. § 103 rejection of Claim 13 and Claim 14 depending therefrom.

The Examiner rejected Claims 15-21 under 35 U.S.C. § 103 as being unpatentable over Lafond '152. The Examiner indicated that Lafond discloses that the carious region is darker than the surrounding region and that it is inherent that there will be an intermediate ring region therebetween. This arrangement is depicted below.



Applicants respectfully submit that Claim 15 does not call for a ring positioned intermediate a dark central region and a lighter surrounding region as described by the Examiner, but rather recites the step of identifying a red-orange central region surrounded by an intensely luminescent region and a dark outer ring, with the intensely luminescent region positioned intermediate the red-orange central region and the dark outer ring. The claimed arrangement is depicted in Figure 3 which shows carious region 32 surrounded by intensely

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suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification." *In re Fritch*, 972 F.2d 1260, 1266 (Fed. Cir. 1992) (citing *In re Gordon*, 733 F.2d at 902)). Not only must the Examiner bear the burden of showing a teaching or suggestion to combine references to establish a 35 U.S.C. § 103

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luminescent region 36 and dark outer ring 34. Applicants respectfully submit that the Examiner's indication that Lafond discloses that the carious region is darker than the surrounding region and that it will be inherent that there is an intermediate ring therebetween does not meet the language of Claim 15 as outlined above.

Lafond '152 does not disclose or suggest a method of identifying a caries in a tooth including the step of identifying a red-orange central region surrounded by an intensely luminescent region and a dark outer ring, whereby the intensely luminescent region is intermediate the red-orange central region and the dark outer ring, as called for in independent Claim 15 of the present application. With this in mind, Applicants respectfully request that the Examiner withdraw the 35 U.S.C. §103 rejection of Claim 15 and Claims 16-21 depending therefrom.

Allowable Subject Matter

Applicants appreciate the Examiner's indication of allowable subject matter in Claims 22-30.

Specification

Responsive to the Examiner's objection to the specification, Applicants have amended Paragraph 23 as indicated above.

It is believed that the above represents a complete response to the official action and reconsideration is requested. Specifically Applicants respectfully submit that the application is in condition for allowance and such action is earnestly solicited.

In the event Applicants have overlooked the need for an extension of time or payment of fee, Applicants hereby petition therefor and authorize that any charges be made to Deposit Account No. 02-0385, BAKER & DANIELS.

In accordance with 37 C.F.R. § 1.121, Applicants herewith submit a marked-up copy of the amended portion of the specification.

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If any questions concerning this application should arise, the Examiner is encouraged to telephone the undersigned at 260-424-8000.

Respectfully submitted,



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MS/pas

Enclosure(s):

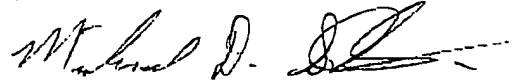
Marked up version of the
Amended Portion of the Specification
Combined Amendment & Petition for Extension of Time

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Certificate Under 37 CFR 1.8(b)

I hereby certify that this correspondence is being transmitted to the United States Patent and Trademark Office via facsimile on the date listed below.

on January 10, 2003



Michael D. Schwartz, Reg. No. 44,326

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ATTACHMENT I

Version with Markings to Show Changes Made in the Specification of U.S. Patent
Application Serial No. 09/935,673 as of January 10, 2003

Paragraph 23 found on page 11.

[0023] (Amended) Referring now to the drawings and particularly to Fig. 1, dental handpiece 22 includes housing 10, with motor housing 20 having a motor (not shown) contained therein. In an alternative embodiment, housing 10 does not contain a motor, but rather includes an air turbine located adjacent drill head 18 (discussed hereinbelow). Dental handpiece 22 further includes light source 12. As illustrated, light source 12 is contained within motor housing 20, although it is contemplated that light source 12 may be positioned in various alternative locations [withing] within housing 10. Light source 12 is connected via light guides 14 to opening 16 in housing 10. Dental handpiece 22 further includes drill head 18 (or other device for excavating unhealthy tooth substance) operably connected to the motor housed within motor housing 20. Dental handpiece 22 is connected to appropriate sources of power as is conventional in the art. Opening 16 is configured whereby light produced by light source 12 is projected from dental handpiece 22 substantially in a direction along which drill head 18 protrudes from dental handpiece 22.